LOCATING THE BUS LOGISTIC NETWORK POINTS TO IMPROVE OPERATIONAL CAPABILITY AT COIMBATORE, INDIA.

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INTRODUCTION

The Coimbatore district is a mid-urban district of state Tamilnadu in India. This place called as Manchester of south India and have lots of geographic feature to help the coordination of the logistic in southern india. the geographic position of this district and surrounding region connects the 3 major states of south india (tamilnadu, kerala and Karnataka). also growing urbanization of location makes is budding hotspot for industrial expectations. hence improved logistics will tremendously support the effort for further growth of entire society. Coimbatore is the industrial heart of southern india. Major raw material, composite manufacturing industries and textile industries are around the locality and in demand for the daily logistics all over the india.

BUSSINESS QUESTIONS

- How to locate and where to locate the position for logistic hub points shall be decided by the analysis.

- Hence optimal positioning of logistic points will help the zone to improve its transportation demands of locality.

TARGET AUDIENCE:

- public administrative sectors
- logistics based startup companies
- supply chain and logistic industries
- anyone who is interested in improvising logistics in the locality of Coimbatore surrounding, who are struggling in positioning the perfect location for the connecting hub.

DATA COLLECTION

the data was sourced from various websites, csv files and government datas in repositories. and then cleaned and combined for optimal use.

data are sourced from

1. the data provided by the indiapost organisation (in csv form)
2. the data provided by the government of india (https://data.gov.in/catalog/all-india-pincode-directory?filters%5Bfield_catalog_reference%5D=85840&format=json&offset=0&limit=6&sort%5Bcreated%5D=desc)
3. the geolocation data provide by indiapost and kaggle.com
4. webscrapped data from ("https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Coimbatore")

DATA ATTRIBUTES

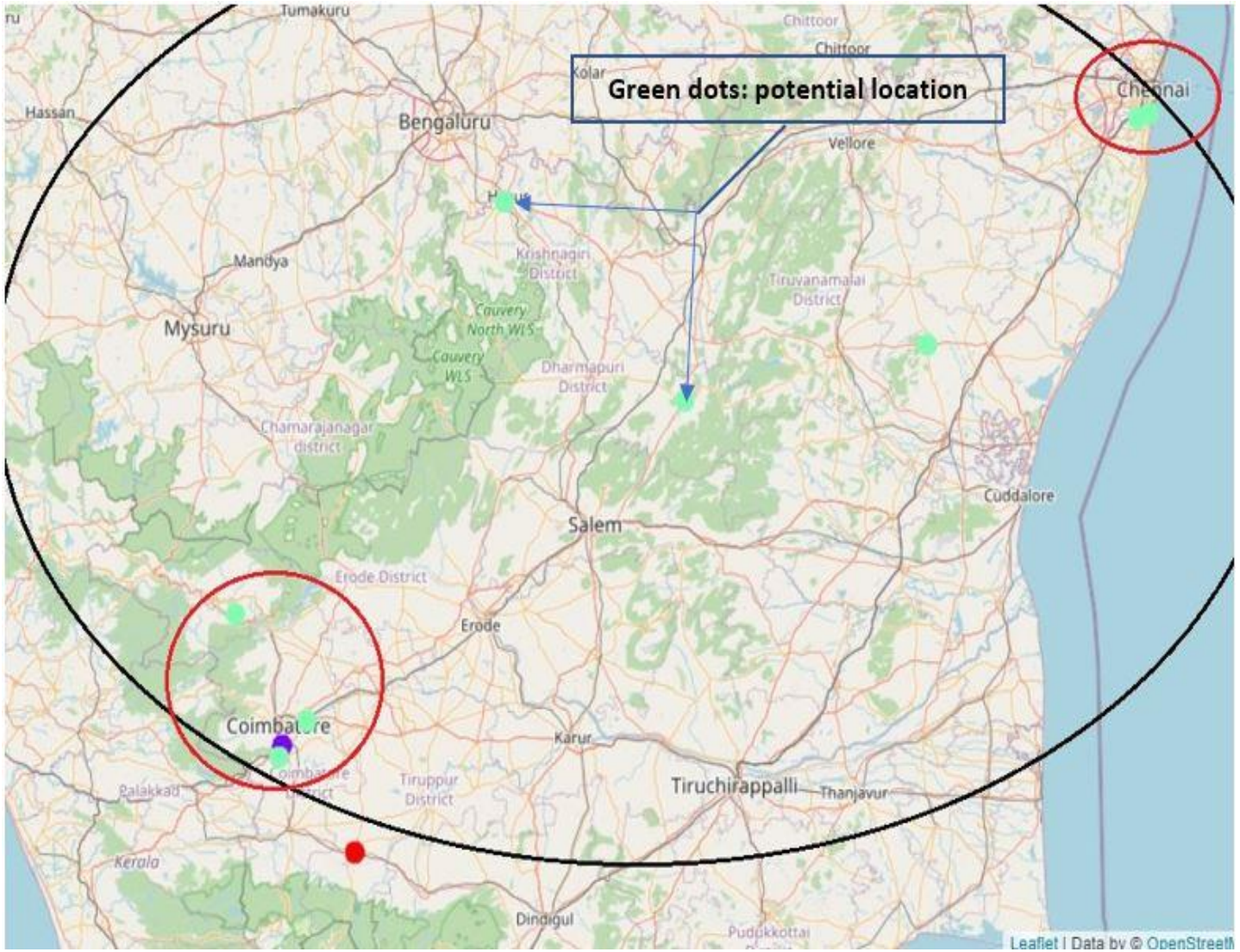
- Neighborhood(3 levels of sub categories in region)
- Latitude
- Longitude
- Venue Name
- Venue Latitude
- Venue Longitude
- Venue Category

METHODOLOGY

- 1. Understanding the business problem
- 2. Data collection
- 3. Data cleaning
- 4. Modelling
- 5. Data Visualization
- 6. Business insights(analysis and interpretaions)
- 7. Data Driven decision making

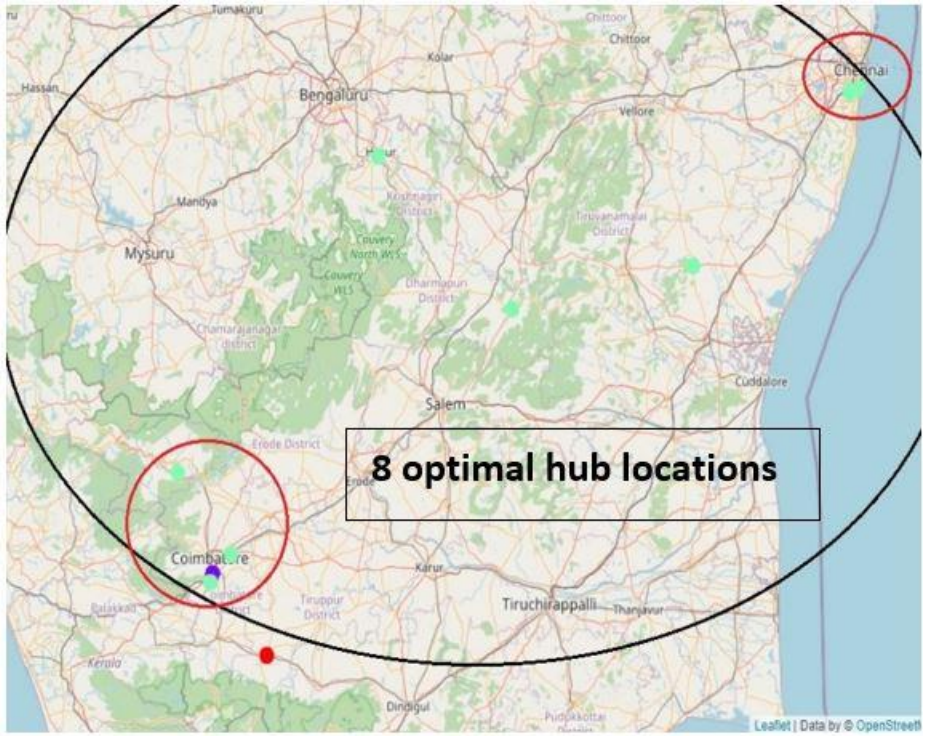
RESULTS

- the results from the k-means clustering show that we categorize the neighborhoods into 3 Clusters are based on the frequency of occurrence for “bus and transport stations”:
- ➢ Cluster 0 [Red]: Areas with high number of logistic points
- ➢ Cluster 1 [Purple]: Areas with moderate number to no existence of logistic points
- ➢ Cluster 2 [Green]: Areas with low/ insufficient number of logistic point for operation



CONCLUSION:


Tumakuru
Chikkamagaluru
Kolar
Chittoor
Hassan
Bengaluru
Vellore
Mysuru
70+ neighbourhood
Cuddalore
Kozhikode
Coimbatore
Tamil Nadu
Thanjavur
Kerala
Dindigul
Kochi
Madurai


Bengaluru
Mysuru
Salem
Cuddalore
8 optimal hub locations
Tiruchirappalli
Thanjavur
Karur
Dindigul
Leaflet | Data by © OpenStreetM

CONCLUSION CONTD:

- Less than 10 logistic hub positions shall connect 70+ neighborhoods in greater way

- These positions shall well connect will possibly increase the overall transport mobility in all three states just by connecting the locations of Coimbatore and Chennai region (red circled in fig)

- As Chennai the tamilnadu capital and port region and in contact with 2 states logistic demand is high. and Coimbatore connecting 3 state also have high demand for logistic connectivity and also middle city in peninsular region of southern india. hence connecting the regions covered by green dots the regions of Coimbatore, erode, Salem to be well connected for the optimal logistic in the region.

LIMITATIONS AND FURTHER SCOPE:

- The data from foursquare is not rich, as major population uses google data. And data is not up to date in some locations. Hence accuracy deplete in minor ways.

- Another limitation is analysis purely based on bus transport logistics and road transportation. And excluding the railway connectivity.

- The future scope shall be the comparing the neighbor hood of key district in three states including road and rail transport to find the optimal positioning of new logistic hub for effective transportations.

References:

- https://data.gov.in/catalog/all-india-pincode-directory?filters%5Bfield_catalog_reference%5D=85840&format=json&offset=0&limit=6&sort%5Bcreated%5D=desc
- https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Coimbatore
- www.kaggle.com
- Documentations of python, beautiful soup and foursquare api